

DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
WASHINGTON 25

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OFFICE OF THE COMMISSIONER

Personal.
Center for
Transportation

April 23, 1954


File

General John Bragdon
Council of Economic Advisers
Room 367, Executive Office Building
Washington, D. C.

My dear General Bragdon:

Enclosed herewith is the plan which was developed last summer as an approach to the solution of the highway problem. It may give you some new ideas as to financing and how a system of national highways could be integrated with State responsibilities.

Sincerely yours,



F. V. du Pont
Commissioner.

P.S. Kindly return this copy when it has served its purpose.

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A PLAN for NATIONAL HIGHWAYS FOR PEACE OR DEFENSE

I

The national economy demands an adequate highway system. Roads are absolutely essential for our modern way of life. Distribution of food, raw materials, and finished products is dependent upon roads. Many persons use roads daily as a means of transportation to and from work. Our entire population uses roads at one time or another for business or pleasure, and our whole economy is built around them. If road capacity is insufficient to meet the demands upon it, then our economy is bound to suffer.

It has been estimated that one-sixth of our Gross National Product, or \$60,000,000,000, out of a total of \$360,000,000,000 is dependent upon roads. Some of our key industries, such as automobiles and accessories, rubber, petroleum, and many related industries and service industries could not exist without them. Our economic welfare in turn depends upon these industries. The question is not -- "Can we afford adequate roads?", but rather -- "Can we afford not to have adequate roads?".

Our roads do not meet today's demands. In the report of April 8, 1952, made by the Committee on Public Works of the House of Representatives, after extensive hearings, the Committee concluded that there was "urgent need for an accelerated highway construction program to overcome the serious deteriorations and deficiencies which have been accumulating at a greater rate than the rate of new construction". Actual construction of Federal-aid primary roads in the fiscal year ended June 30, 1953, was 6,681 miles, or

approximately 3% of the total mileage of the system. In 1951 the American Association of State Highway Officials estimated that approximately two-thirds of our Federal-aid Primary and Urban Highway Systems were in need of improvement to attain modern standards.

It is clear that our roads will be even more inadequate to take care of tomorrow's demands, unless present procedures are changed. Traffic has more than doubled since 1935. At present it is increasing at the rate of 5% per annum. Today motor vehicle registrations, which were approximately 26,000,000 in 1935, approximate 52,000,000, and it is estimated that registrations will reach 75,000,000 by 1970. Our highway use is increasing at the same rate as our Gross National Product. These facts indicate that we are falling further behind, rather than making progress in meeting the situation.

An adequate system of highways is also a requisite for the national defense. Speed in the transportation of men and equipment is an absolute necessity in modern warfare. Today's highway systems do not meet these military demands. In addition, nearly all of the main routes contain bridges which are unable to take care of military loads. An adequate system for the military needs also requires uniform standards and design. These defects could have most serious consequences in time of war.

The evacuation of entire urban areas may become necessary in case of atomic attack. The frequent occurrence of traffic jams, and the generally slow movement of traffic during rush hours in our large urban areas, demonstrates beyond question the need for improvement. Better facilities for transportation of large numbers of civilians in time of emergency is one of the important elements of a civil defense program.

This Administration has created a "White House Conference on Highway Safety". This conference will meet in February 1954. The daily occurrence of thousands of accidents, occasioning many deaths has created a serious problem. One means of reducing this death toll is to bring highways up to reasonable modern standards. It has been found by actual check that on those highways in the Interstate System where improvements are adequate, the rate of fatal accidents was only 5.65 per hundred million vehicle miles as compared with an average for the entire system of over 9.19 on two-lane sections, 9.08 on three-lane sections, and 9.41 on undivided four-lane sections. If the rural portion of the Interstate System (approximately 31,800 miles) were now up to modern standards, it has been estimated that more than 1,400 lives would have been saved in one year on this small portion of our highways.

Several factors are responsible for the failure to meet the problem to date. The lack of funds, both Federal and State, with which to embark on the extensive program required is the main factor. Underlying this is the failure on the part of the general public to grasp the situation fully, and so to insist upon legislation which would provide sufficient funds to permit the adoption and completion of an adequate program. In addition, appropriations of funds are on a current or bi-annual basis and there is, accordingly, no assurance that definite amounts will be available in the future. This makes the adoption of an effective program to be carried out over a period of years difficult, if not impossible, and also hinders borrowing by the states. Also, demands on State Highway Commissions from different areas and groups result in spreading the funds actually appropriated over too many projects and make it impossible to concentrate on particular systems. This likewise tends to lower standards. Under the law, the initiative is left entirely with the states. This hinders a uniform approach and execution.

Prompt action is essential. The problem is one of the most important of the many important problems confronting the nation today. A solution is imperative. Deferring action today in the hope that it will be easier to take in the future is no solution. It will just be a bigger problem and more expensive tomorrow. Accordingly, the Plan herein proposed merits careful consideration. The problem presented must be met.

II

A brief statement concerning our roads and the Federal-aid System will assist in evaluating the Plan. The total estimated mileage in the United States of all roads, streets and highways is 3,326,510. Approximately 90% of this network is rural mileage. Of course, conditions and laws vary from state to state, but generally speaking the vast bulk of this mileage is supervised locally, and only a comparatively small percentage (slightly more than 10%) is on primary state highways under control of the state highway departments. Funds for the state highways generally are derived from road user taxes. General revenues as well as various taxes, such as real property, special assessments, and local road taxes, contribute to the support of the local roads. The overall total expended on roads, including maintenance, administration, debt services, and Federal aid, exceeded \$5,000,000,000 last year. The total state and subdivision authority indebtedness exceeded \$5,800,000,000. The possibility of substantial increases in state expenditures for road construction is remote.

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Under the Federal-aid Plan for roads which commenced with the Federal-aid Road Act of 1916, as amended in 1921, each state originally designated 7% of its total highway mileage as highways eligible to receive Federal aid. More than two-thirds of the states have increased this percentage pursuant to certain provisions of the law. The Commissioner of Public Roads is required to approve all such designations. The Federal-aid System is divided into the Federal-aid Primary Highway System, which includes a rural system and an urban system, and a Federal-aid Secondary Highway System. As of June 30, 1953, the total mileage in the Federal-aid Primary System was 234,675 of which 216,793 miles was rural, and 17,882 miles urban. The total mileage of the Federal-aid Secondary System was 460,002.*

When Congress appropriates funds for the Federal-aid Systems, these are apportioned to the various states on the basis of area, population and mileage. After apportionment, the State Highway Commission designates a program of projects on the various systems for construction. These are submitted to the Commissioner of Public Roads for approval. When these are approved, the State Highway Commission submits Plans, Specifications and Estimates of each project for approval. After a project has been approved, the State Highway Commission advertises for bids, lets the contracts and is responsible for the construction, as well as maintenance after construction. Either during the course of construction or after the construction has been completed, the state is entitled to receive Federal funds up to 50% of the cost of construction of the project.

* Exhibit I sets out the complete mileage statistics of these systems by states.

The Federal-aid Highway Act of 1944 required the designation of certain routes within the Federal-aid Primary System for inclusion in a system to be called the National System of Interstate Highways. This designation was limited to 40,000 miles and was supposed to join the principal metropolitan areas, to serve the national defense, and to connect at established boundary points with routes of continental importance in the Dominion of Canada and Republic of Mexico. Approximately 37,800 miles of this system have been designated.*

Under the Federal-aid Highway Act of 1948, the Commissioner of Public Roads was directed to cooperate with the State Highway Departments in a study of the status of improvement of the National System of Interstate Highways and to invite the cooperation and suggestions of the Secretary of Defense and the National Security Resources Board. The report** made pursuant to this Act was transmitted to Congress by President Truman on June 30, 1949. In connection with the report, the Secretary of Defense indicated that this system, designated as the National System of Interstate Highways, was adequate for national defense purposes insofar as routes and mileage was concerned. He further stated that he estimated that there might be a significant change in the strategic importance of a relatively small mileage (not exceeding 2500 miles) as weapons and methods of warfare change. The report stressed the very serious deficiencies and inadequacies in this System.

* Exhibit II is a map of routes on the Interstate System.

** This report is in the form of a pamphlet entitled "Highways Needs of the National Defense". It is herein referred to as the "1949 Report".

III

The following proposals when taken together constitute the Plan herein proposed:

1. Initiate, adopt and carry out a program in cooperation with the states for the construction or modernization as promptly as possible of that system of highways now designated as the "National System of Interstate Highways". In this connection change the name of the system to "National Highways". Superimpose this program on the present Federal-aid programs, except for that part of such programs involving the Interstate System. This proposal permits some initiative on the part of the Secretary of Commerce instead of leaving the matter entirely to the states.
2. Pay 100% of the cost of that program out of U. S. funds, instead of the 50% now required by the present Federal-aid system. Construction and maintenance by the states will continue as at present.
3. Raise the funds required to cover such cost through the issuance and sale to the public of U. S. Consolidated Annuities or Consols,* instead of through appropriations from taxes. The Congress would presently authorize the issuance of the Consols in an amount sufficient to cover the estimated cost of the entire program, and provide that such Consols be issued serially from time to time as cash payments are required to complete the program. Provide in such authorization that the Consols (1) will carry an obligation to pay interest (exempt from Federal Income Taxes) but will not carry an obligation to pay principal; (2) may be called by payment of a small premium; (3) may be

* Exhibit III contains a brief description of British Consols.

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tendered in lieu of cash for Federal Estate Taxes in order to sustain the market price of these securities, and afford a gradual retirement thereof; and (4) may be tendered in lieu of cash (after ten years from date of issue) for U. S. Income Taxes for such percentage, if any, of each individual tax due as the Secretary of Treasury may designate in any year.

4. Continue Federal aid as at present ^{or gradually} under the Federal-aid Primary and Urban Systems. In this connection reduce the mileage of the Federal-aid Primary System in each state by the number of miles of National Highways in that state.

5. Continue Federal aid under the Federal-aid Secondary System but transfer responsibilities and functions of U. S. Bureau of Public Roads with respect to this Secondary System to the State Highway Departments, except for those responsibilities and functions directly connected with the apportionment of Federal funds.

6. Construct or modernize those National Highways requiring improvement in accordance with definite standards to be adopted by the Secretary of Commerce in cooperation with the Secretary of Defense and the State Highway Departments. This would require more rigid adherence to definite standards than present practice which permits exceptions, and could afford a means of controlling vehicle weights and sizes using this system, if desirable.

7. Designate for inclusion as a part of the National Highways the 2200 miles still not designated, so as to make the system one of 40,000 miles. Such designation must be in cooperation with the states and approved by the Secretary of Defense.

8. Provide authority for acquisition and freeing of those toll roads now constructed or in process of construction, which by reason of their location and type of construction could be included in the National Highways, except for the fact that they are toll roads. Permit such acquisition to be accomplished through payment of the bonds outstanding on the toll road to be acquired.

IV

The fundamental advantage of this Plan is clear. Within a ten-year period or sooner, this country will have an adequate system of modernized National Highways, which have been selected by the best informed and best qualified groups in the country. Under present procedures it is unlikely that we will ever have an adequate system of National Highways, and certainly we will not in the foreseeable future. An adequate system cannot be attained without the adoption of some plan that differs fundamentally from our present procedures. A further advantage of the Plan is the fact that the states will be in a position to spend on other roads those funds that they are now spending on the National Highways.

It has been estimated that 20% of the traffic on the entire rural network of highways would be carried by the National Highways. They are the most important highways of the country both for economic development in times of peace, and for defense purposes in times of attack. If these highways are adequately improved, a very substantial step will have been made in the solution of the whole problem concerning roads. It is also clear that improvement of these important interstate highways is an operation peculiarly within

the scope of the functions of the Federal Government. Our Constitution was adopted for a number of purposes, including those to "provide for the common defense"; to "regulate commerce with foreign nations and among the several states"; and to "establish post offices and post roads".

The Plan overcomes the weaknesses of the present procedures. The most important change suggested is the payment of 100% of the cost with Federal funds, instead of 50%. It is essential that much larger sums be spent immediately, and it is clear that the states cannot be counted upon to raise the required amounts. It is also essential that work be concentrated on these particular highways. It is assumed with 100% Federal funds that there will be no delay in state cooperation in planning and constructing these highways. It is contemplated that the Secretary of Commerce will work closely with the State Highway Commissions in this regard.

Since substantially all of the highways are already designated and since the funds will only be expended on the particular highways designated, the present tendencies to spread the projects too thin or to lower the standards will be entirely eliminated.* In fact, one of the features of the Plan

* Apportionment will be unnecessary for funds will be made available to pay for the construction of a system that has already been designated as a system of highways for the country as a whole and not for the individual states. It has been designated by the states, concurred in by the Department of Defense, and the Commissioner of Public Roads, long prior to any thought of a plan such as the one proposed. Accordingly, it is clear that the designation has been made without bias.

The Plan could not be accomplished if funds were apportioned on the basis of mileage, population, and area, or on any other similar basis, for the system was designated as a national system, and funds could not be apportioned to the states in such a way that the costs of this national system would be covered.

that is particularly important from the point of view of defense is the imposition of uniform standards. Finally, the funding of the estimated cost through the authorization to issue Consols will permit planning for the entire system to be initiated at once. Construction of roads requires an unusually long lead time, and the ability to plan far in advance will be most beneficial.

The concurrence of the Secretary of Defense is required for the designation of the additional 2200 miles and possibly minor revisions in the mileage already designated. This should prove of great importance for his strategic planning, and should eliminate any question of bias in designating mileage in a particular state. The turning over of the responsibility for Federal-aid Secondary Roads to the states will contribute substantial savings to administration by the Bureau of Public Roads, and will return to the states complete jurisdiction over the secondary roads.

The Plan suggests an approach which differs fundamentally from the present Federal-aid approach. It takes as a premise that the Nation needs a system of National Highways which has already been designated. In order to assure the completion of that system within a reasonable time, Federal funds will bear the entire cost. The states will be asked to aid in constructing and maintaining the system. The present Federal-aid approach leaves the entire option of designating the routes of a very much larger system and determining the time of building to the states. It aids them with a portion of the cost.

The demand for improved highways has produced a number of plans. One of the currently most popular is the construction of toll roads. These roads are being planned and constructed at a substantially increased rate.* Many persons believe that toll roads are an answer, or at least the best possible answer to the road problem. The Plan has several advantages of the utmost importance over the toll road solution. Estimates have been made by the Bureau of Public Roads as to the total mileage that would support toll roads. These estimates indicate that traffic is dense enough to support toll roads on probably not much more than 10,000 miles, or 25% of the National Highways. In addition, a toll road would not necessarily have to be built in compliance with the uniform standards which will be adopted for the National Highways with defense purposes particularly in mind. Finally, the National Highways should be free. Free highways are essential to the free commerce which was contemplated by our Constitution.

Another suggestion has been to abandon Federal Excise Taxes on road users and to permit the states to increase their taxes correspondingly. This proposal would not accomplish the purposes of the Plan. There is no assurance that State Legislatures would make a corresponding increase in their taxes, and even if they did, that the increased funds would be spent on roads. The delay in action by the forty-eight State Legislatures, and the lack of any certainty about their final handling would clearly postpone any affirmative action for many years. Even if the states did raise their tax rates and spend the increase on roads, there is no assurance that the National Highways would receive the benefit.

* Exhibit IV is chart which illustrates this rapid increase.

A somewhat similar proposal was to establish a trust fund of such Federal excises and to require such fund to be applied for highway purposes. If this were done merely to permit increased Federal aid under our present system, it would not have the advantages of the Plan. It has always been contrary to Federal fiscal policy to earmark Federal Excise Taxes for any special purpose, and accordingly, this suggestion would have to overcome a long established policy. The usual policy has been to place all Federal Excise Taxes in miscellaneous receipts of the Treasury for appropriation for such purposes as Congress determines.

VI

Estimates have been made which indicate the possible cost of the Plan. The 1949 Report contained an estimate based on 1948 figures of the cost of improvements for the 37,800 miles of roads then designated as the National System of Interstate Highways. This estimate indicated a cost of approximately \$11,266,000,000, of which \$5,293,000,000 was for sections of the system within the urban areas of cities of 5,000 or more population, and \$5,973,000,000 was for rural sections. This estimate did not include the same capacity standards for future needs as are contemplated by the Plan. In 1948 the price index per composite mile of construction was 151.2. The price index for the first quarter of 1953 was 165.9, or an increase of approximately 9%. It is believed that the contemplated additional 2200 miles will involve a substantial amount of urban mileage where the cost of construction is high. Currently, a survey is contemplated by the State Highway Commissioners in an effort to get a new estimate based upon 1953 conditions. Pending completion

of that survey, it has been assumed that the cost of the Plan will be \$15,000,000,000.

The expenditures for the National Highways contemplated by the Plan will be paid out of proceeds received from the sale of the Consols. Accordingly, no increase in the rate of any presently imposed tax is contemplated, nor is any new tax levy necessary. Consequently, the proposals will not run counter to the Administration's policy and the public's desire with regard to taxes.

For the first four years after the adoption of the Plan, the cash position of the U. S. Treasury will be increased. In the 1952 Federal-aid Highway Act Congress authorized to be appropriated for the fiscal years ending June 30, 1954 and June 30, 1955 amounts for the Federal-aid Systems as follows:

Federal-aid Primary	-	\$247,500,000
Federal-aid Secondary	-	165,000,000
Federal-aid Urban	-	137,500,000
Interstate	-	25,000,000
Total		<u>\$575,000,000</u>

On the assumption that expenditures for the National Highways will approximate \$1,500,000,000 per annum and that the Consols will be issued serially, it will take more than three years before interest on the Consols totals \$125,000,000. This figure approximates the amount of Federal-aid funds currently being expended for Federal-aid projects on the Interstate System. It is presumed that Congress will reduce its appropriations by that amount so that its annual appropriations for Federal aid to highways will approximate \$450,000,000, instead of the present \$575,000,000. The assumptions and estimates herein are made on the basis of interest rate on the Consols of 2½% per annum.

After the first four years the total amounts payable for such interest will exceed the sum of \$125,000,000 in increasing amounts each year, until the amount of \$372,500,000 is reached. This represents interest on the entire \$15,000,000,000. If Federal aid is continued at the annual rate of \$450,000,000, and interest totals an additional \$372,500,000, the current appropriations of \$575,000,000 will be exceeded annually by the sum of \$247,500,000. The total annual appropriations would be \$822,500,000.

This increase in annual appropriations will in all likelihood be covered by the Federal revenues derived from taxes on motor fuel and lubricating oil.* Collections from these taxes over the past five years have been as follows:

1948	\$580,247,000
1949	584,380,000
1950	643,198,000
1951	694,037,000
1952**	958,510,000**

The estimated annual appropriation of \$822,500,000 would have been covered by the 1952 revenues. However, the present law contemplates the reduction in 1954 of $\frac{1}{2}$ cent in the present 2 cents a gallon rate. Even with this reduction, the continually rising trend of these revenues indicates that the estimated appropriation will in all probability be covered in the future. Continuation of the present tax rate could afford a reserve for calling outstanding Consols and/or reimbursing the Treasury for such Consols as may have been presented in payment for inheritance taxes.

* Exhibit V contains a statement of these revenues since 1932, and also an estimate of the portions paid by highway users.

Exhibit Va shows the rate of the gasoline tax during this period.

** This due in part to temporary increase of $\frac{1}{2}$ cent in rate of gasoline tax.

When the fact is taken into account that highways are an essential facility for industries contributing to one-sixth of our national production and employment, the investment of an additional \$247,500,000 per annum to preserve the important part of this facility is fully warranted. Failure to make such an investment is unrealistic. Other important factors, such as national defense and highway safety, lead to the same conclusion. Moreover, the improvement of highways tends to generate more traffic which in turn increases revenues from motor fuel taxes.

It has been assumed that the proposed provisions of the Consols will make them attractive for public sale even though they carry no obligation to pay a principal amount. However, this feature permits their issuance today. The permissive tender of Consols for estate taxes should not involve amounts large enough to affect the Treasury's position, except in a very minor way, and can be offset as indicated above if desired. The income tax tender is permitted only at the option of the Secretary of the Treasury and in amounts regulated by him. Redemption of the Consols is purely at the option of the Secretary. Accordingly, the Consols, except for the payment of interest, could never be a burden upon the Treasury.

VII

Not only do studies by impartial persons best qualified to make them indicate the need for more rapid improvement of our highways, but the facts in connection with actual construction also bear this out. In the fiscal year ended June 30, 1953, projects which used Federal-aid funds were completed as follows:

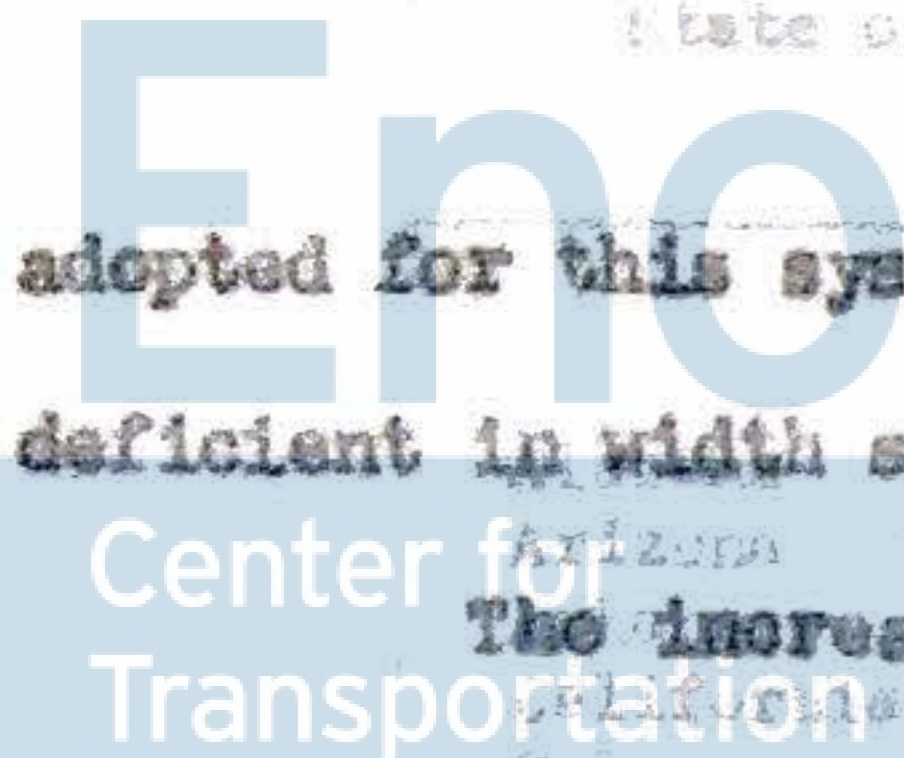
	<u>Miles Completed</u>
Primary	- 6,681.1
Secondary	- 15,402.7
Urban	- 758.5

The total mileage of the Federal-aid Primary Rural System is 216,793, and accordingly, the mileage completed with Federal-aid funds was only 3% of this total mileage. The total urban mileage is 17,882 miles, and accordingly, the 758.5 miles is only 4.2% of this total mileage.

The life of a road varies with its design, construction and use. Accordingly, no accurate statement can be made as to a composite average number of years after which a road should be constructed or modernized. However, it has been estimated that the entire Interstate System would become useless in twenty years if nothing were done. When it is recalled that traffic is increasing in the same ratio as our Gross National Product,* this estimate seems conservative. In any event, at the present rate of construction and modernization, it would take over 30 years to complete the system. This indicates clearly that we are not even holding our own, but are going backwards in the construction and modernization of our roads.

While most of our bridges can carry our presently foreseeable military loads, there are also a considerable number with insufficient capacity. Unfortunately, most of our main routes have some bridges of insufficient capacity, so that the commander of a force containing heavy loads would find it extremely difficult to move about the country. In addition, approximately 7200 bridges in rural areas and 1000 in urban areas out of the 12,000 bridges on the Interstate System do not come up to the modern standards of load carrying capacity

* Exhibit VI contains chart illustrating this.



adopted for this system. A substantial number (about two-thirds) are also deficient in width standards.

The increase in accidents and deaths on our highways has been startling. The number of accidents increased 51% from 5.5 million in 1945 to 8.3 million in 1950. In 1951 total accidents increased to 9,400,000, and in 1952, to 9,500,000. Deaths increased 24% from 28,076 in 1945 to 34,763 in 1950. In 1951 deaths increased to 37,300, and in 1952 to 38,000. Property damage increased 92% from \$650,000,000 in 1945 to \$1,250,000,000 in 1950, and in 1952 it was \$1,500,000,000. The Plan should bring about a 40% reduction in deaths on the comparatively short Interstate System.

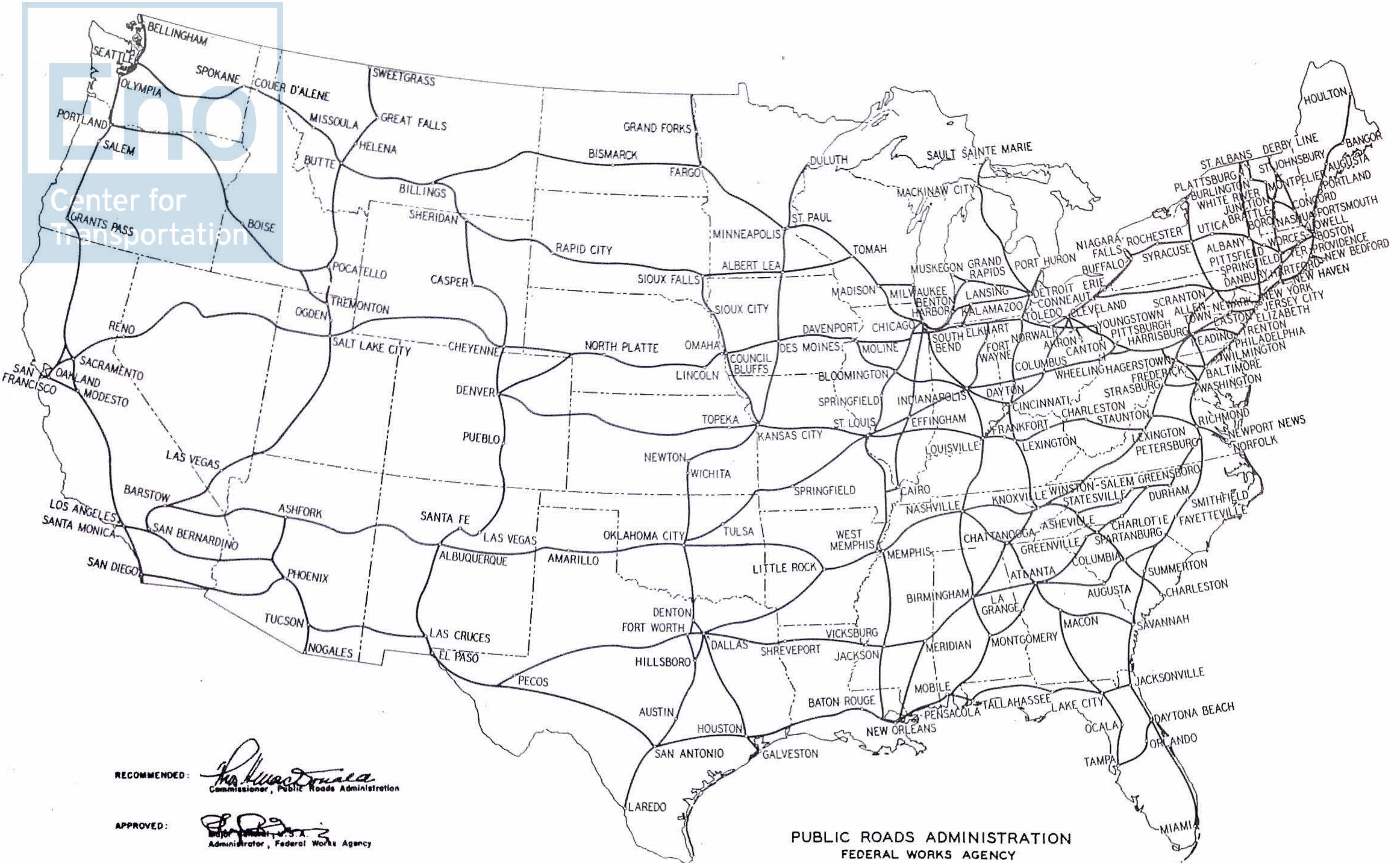
VIII

This Administration has announced a number of purposes and policies. It desires to make adequate provisions for the needs of national defense and civil defense; it desires greater safety on our highways; it desires to reduce unnecessary expenditures, and taxes; and it desires to have a sound and prosperous economy.

This Plan will contribute substantially towards these purposes and policies. It will give us a system of highways adequate for the national defense; of benefit to the civil defense; highways that will be far safer than the present highways; highways that result from a necessary expenditure for a necessary asset, and not from a waste or an inefficient use of the tax payer's money; and finally it will give us free highways that contribute greatly to our economic welfare and to our American way of life. This Plan for our National Highways is worthy of serious consideration.

Mileage of designated Federal-aid highway systems, by State, as of
June 30, 1953

State or Territory	Federal-aid primary highway system			Federal-aid secondary highway system
	Total	Rural	Urban	
	Miles	Miles	Miles	Miles
Alabama	5,086	4,765	321	11,638
Arizona	2,522	2,430	92	3,001
Arkansas	3,482	3,281	201	13,151
California	7,188	6,377	811	9,507
Colorado	4,050	3,938	112	3,787
Connecticut	1,092	811	281	1,117
Delaware	532	488	44	1,275
Florida	4,314	3,855	459	10,425
Georgia	7,392	7,040	352	12,322
Idaho	3,369	3,320	49	3,755
Illinois	10,324	9,277	1,047	8,402
Indiana	4,851	4,231	620	15,564
Iowa	9,721	9,287	434	33,037
Kansas	8,131	7,874	257	21,569
Kentucky	3,892	3,643	249	13,924
Louisiana	2,653	2,409	244	5,607
Maine	1,644	1,557	87	2,261
Maryland	1,993	1,685	308	5,552
Massachusetts	2,057	1,221	836	2,176
Michigan	6,543	6,032	511	18,550
Minnesota	7,401	6,906	495	15,685
Mississippi	4,567	4,385	182	8,911
Missouri	8,112	7,825	287	14,218
Montana	5,866	5,799	67	3,317
Nebraska	5,402	5,260	142	10,818
Nevada	2,197	2,165	32	2,099
New Hampshire	1,201	1,074	127	1,299
New Jersey	1,696	1,155	541	1,921
New Mexico	4,121	3,988	133	4,443
New York	10,457	8,672	1,785	19,344
North Carolina	6,829	6,447	382	14,703
North Dakota	3,222	3,170	52	10,749
Ohio	7,640	6,543	1,097	12,326
Oklahoma	7,408	7,154	254	10,795
Oregon	3,959	3,770	189	4,756
Pennsylvania	7,755	6,557	1,198	10,882
Rhode Island	474	234	240	344
South Carolina	4,520	4,292	228	10,884
South Dakota	4,199	4,108	91	12,057
Tennessee	5,194	4,930	264	9,332
Texas	15,996	15,293	703	24,431
Utah	2,292	2,169	123	2,955
Vermont	1,248	1,183	65	1,786
Virginia	5,171	4,767	404	16,769
Washington	3,672	3,303	369	6,972
West Virginia	2,423	2,187	236	10,991
Wisconsin	6,120	5,595	525	16,947
Wyoming	3,441	3,397	44	1,990
District of Columbia	148	-	148	58
Hawaii	538	510	28	579
Puerto Rico	570	434	136	1,021
Total	234,675	216,793	17,882	460,002



RECOMMENDED: *[Signature]*
 Commissioner, Public Roads Administration

APPROVED: *[Signature]*
 Major General, U.S.A.
 Administrator, Federal Works Agency

PUBLIC ROADS ADMINISTRATION
 FEDERAL WORKS AGENCY

NATIONAL SYSTEM OF INTERSTATE HIGHWAYS
 SELECTED BY JOINT ACTION OF THE SEVERAL STATE HIGHWAY DEPARTMENTS
 AS MODIFIED AND APPROVED
 BY THE ADMINISTRATOR, FEDERAL WORKS AGENCY
 AUGUST 2, 1947

BRITISH CONSOLS

(Quoted from Encyclopædia Britannica, (1945) Volume 6, p. 290-291)

"CONSOLS. An abbreviation of Consolidated Annuities, a form of British government stock which originated in 1751. Previous to the World War Consols formed the larger portion of the funded (for the uninitiated it may be explained that funded British debt usually covers that portion of the debt where redemption is entirely at the option of the Government) debt of the United Kingdom, but in the progress of the British national debt in the 19th century it was deemed expedient instead of borrowing at various rates of interest according to the state of the market to offer a fixed rate of interest, usually 3% or 3½% and lenders were given an advantage in the principal funded. Thus subscribers of £100 would sometimes receive £150 of 3% stock. In 1815, at the close of the French wars, a large loan was raised at as much as £174 in 3% stock for £100. This practice began in the reign of George II. when some portions of debts on which interest had been successfully reduced were consolidated into 3% Annuities and Consols as the annuities were called, and other stocks of nominal low interest rapidly increased under the same practice during the great wars. In times of peace, when money rates enabled portions of debt at a higher interest to be commuted into stock of lower interest, it was usually into Consols that the conversion was effected. In the earlier part of the 19th century, temporary revenue deficits were sometimes covered by an issue of Consols, while Exchequer bills when funded have taken the same form. Consols themselves, however, underwent a great conversion in 1888, when the existing Consols, and certain 3% annuities were consolidated into one stock, the rate of interest being reduced for 14 years to 2¾% per annum and thereafter to 2½%.

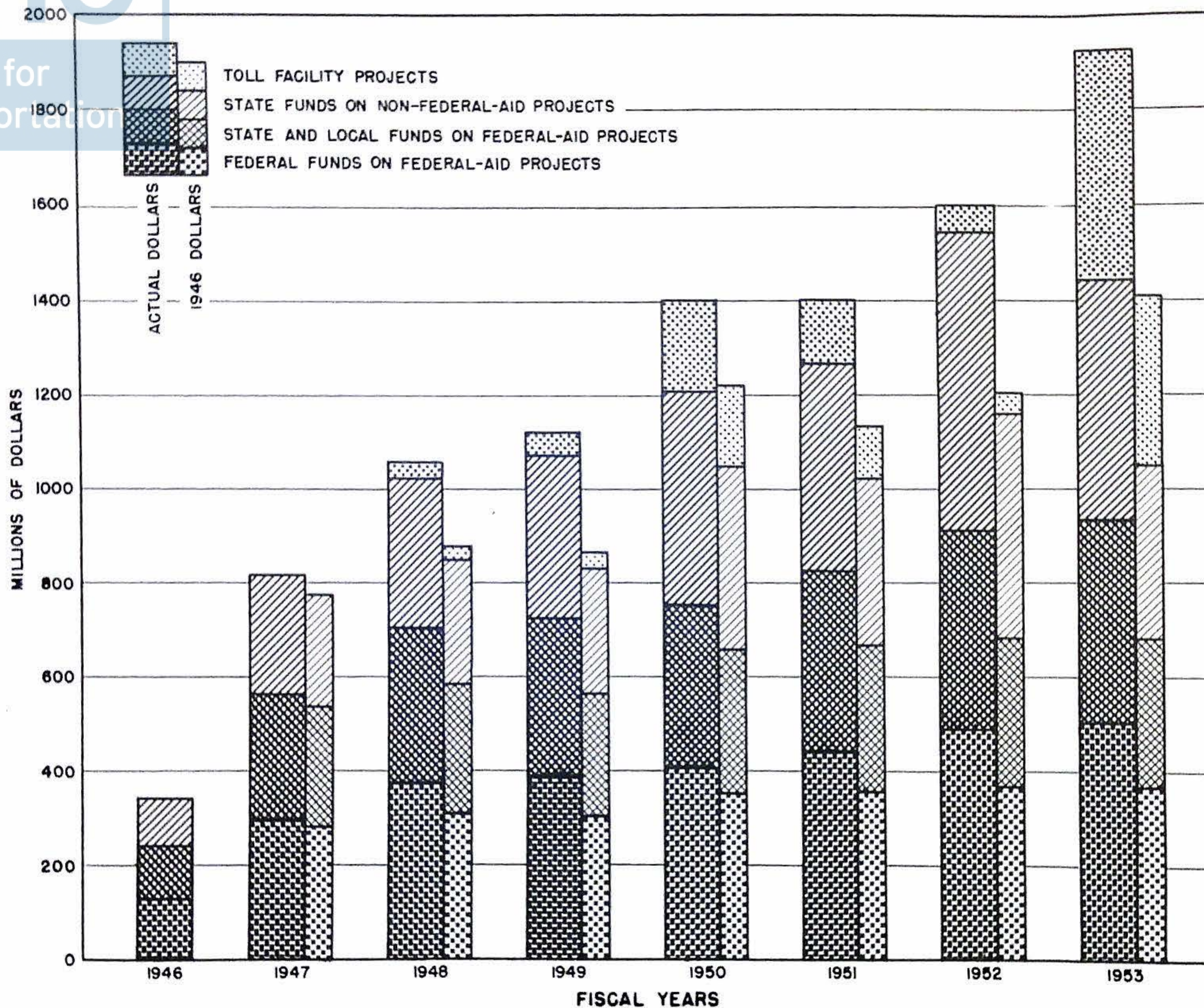
During the first 14-year period, owing to the great ease in the London money market, the 23/4% Consols touched the extraordinarily high level of 114, but as 1902 approached, with the reduction to 2 1/2% in interest, the price steadily declined."

"Consols after 1914. In 1914 previous to the World War, 2 1/2% Consols stood at about 74 1/2, the amount then outstanding being about £590,000,000. During the war period (as shown under 'National Debt') British government borrowing in various forms completely overshadowed the total of 2 1/2% Consols, which became a comparatively small part of the British national debt. Moreover, in 1915 the Government issued a 4 1/2% War Loan, partly for cash, and partly in exchange for outstanding annuities and Consols, when the amount exchanged was reduced to £289,797,000, and at the beginning of 1928 the total amount outstanding of 2 1/2% Consols and 23/4% and 2 1/2% annuities was roughly £300,000,000. At this latter date, the British national debt was still in a transition period as regards funded and unfunded debt, but it should be noted that in addition to 2 1/2% Consols, other British funded debt at March 31, 1927, consisted of £739,936,000 in 3 1/2% Conversion Loan, £166,000,000 in new 4% Consols (created in 1927 through cash subscriptions to the amount of £32,602,000 and through the conversion of maturing short-dated bonds to the amount of £133,782,000), and £13,646,000, as expressed in debts to the banks of England and Ireland, bearing 2 1/2% interest, making the total funded debt £1,220,000,000. (See 'National Debt')."

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HIGHWAY CONSTRUCTION CONTRACTS AWARDED BY STATE HIGHWAY DEPARTMENTS AND TOLL AUTHORITIES



FEDERAL REVENUE FROM TAXES ON MOTOR FUEL, LUBRICATING OIL, AND MOTOR VEHICLE USE 1/

Summary by Years

Table E-5
July 1953

Calendar Year	Total Amount Collected by Bureau of Internal Revenue 2/						Estimates of Portions Paid by Highway Users 3/					
	Motor Fuel			Lubricating Oil	Motor-vehicle Use Tax	Total	Motor Fuel			Lubricating Oil	Motor-vehicle Use Tax	Total
	Gasoline	Highway Diesel Fuel	Total				Gasoline	Highway Diesel Fuel	Total			
1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	1,000 Dollars	
1919	-	-	-	-	2,066	2,066	-	-	-	-	2,066	2,066
1920	-	-	-	-	1,807	1,807	-	-	-	-	1,807	1,807
1921	-	-	-	-	1,796	1,796	-	-	-	-	1,796	1,796
1922	-	-	-	-	1,845	1,845	-	-	-	-	1,845	1,845
1923	-	-	-	-	2,088	2,088	-	-	-	-	2,088	2,088
1924	-	-	-	-	1,894	1,894	-	-	-	-	1,894	1,894
1925	-	-	-	-	1,871	1,871	-	-	-	-	1,871	1,871
1926	-	-	-	-	176	176	-	-	-	-	176	176
1932	62,840	-	62,840	7,067	-	69,907	56,870	-	56,870	4,099	-	60,969
1933	181,126	-	181,126	22,290	-	203,416	163,919	-	163,919	12,928	-	176,847
1934	170,109	-	170,109	24,844	-	194,953	153,949	-	153,949	14,409	-	168,358
1935	172,262	-	172,262	28,819	-	201,081	155,898	-	155,898	16,715	-	172,613
1936	186,542	-	186,542	28,986	-	215,528	168,820	-	168,820	16,812	-	185,632
1937	203,025	-	203,025	33,681	-	236,706	183,738	-	183,738	19,535	-	203,273
1938	200,881	-	200,881	30,495	-	231,376	181,797	-	181,797	17,687	-	199,484
1939	215,217	-	215,217	29,837	-	245,054	198,410	-	198,410	17,306	-	215,716
1940	281,654	-	281,654	34,420	-	316,074	258,632	-	258,632	19,965	-	278,597
1941	371,136	-	371,136	43,852	-	414,988	341,187	-	341,187	25,434	-	366,621
1942	336,685	-	336,685	41,176	210,158	588,019	300,317	-	300,317	23,882	210,158	534,357
1943	265,303	-	265,303	49,211	134,619	449,133	228,453	-	228,453	22,845	134,619	385,917
1944	328,598	-	328,598	66,283	128,054	522,935	236,587	-	236,587	24,645	128,054	389,286
1945	424,585	-	424,585	96,998	124,501	646,084	275,745	-	275,745	26,719	124,501	426,965
1946	413,953	-	413,953	73,442	849	488,244	369,346	-	369,346	34,199	849	404,394
1947	455,350	-	455,350	78,649	2	534,001	400,031	-	400,031	35,090	2	435,123
1948	498,363	-	498,363	81,884	-	580,247	431,778	-	431,778	35,982	-	467,760
1949	504,063	-	504,063	80,317	-	584,380	459,856	-	459,856	38,321	-	498,177
1950	551,450	-	551,450	91,748	-	643,198	509,466	-	509,466	42,163	-	551,629
1951	607,756	180	607,936	86,101	-	694,037	552,136	180	552,316	45,108	-	597,424
1952	851,538	14,683	866,221	92,289	-	958,510	786,072	14,683	800,755	48,045	-	848,800
1953												
1954												
1955												

1/ Tax bases, rates, and effective dates are given in Table E-101.

2/ Since June 1, 1944 the Federal Government has paid the taxes on its own purchases, and the amounts are included in these columns.

3/ Estimated by Bureau of Public Roads.

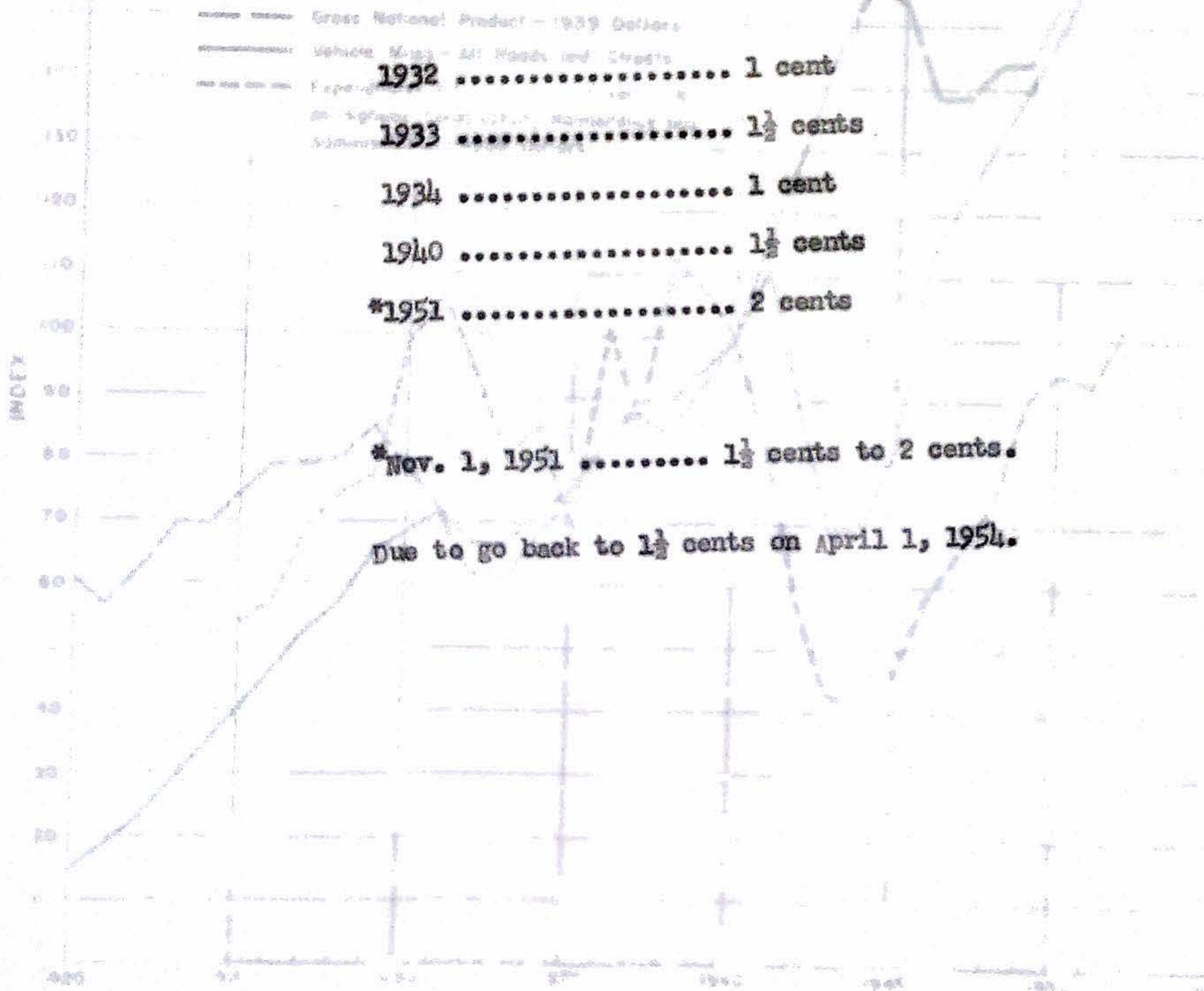
INDEX OF THE GROSS NATIONAL PRODUCT VEHICLE-MILES
OF MOTOR-VEHICLE TRAVEL AND HIGHWAY EXPENDITURES

1940 = 100

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FEDERAL TAX ON GASOLINE



Eno

INDEX OF THE GROSS NATIONAL PRODUCT, VEHICLE-MILES OF MOTOR-VEHICLE TRAVEL AND HIGHWAY EXPENDITURES

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1940 = 100

